

10/52033

atg gcc aca cag gga caa cgc gtc aac tgg gga gat gaa cct tcc aaa Met Ala Thr Gin Gly Gin Arg Val Asn Trp Gly Asp Glu Pro Ser Lys	48
aga cgt gat cgt tct aac tct cgt ggt cgg aag aat aat aat aat cct Arg Arg Asp Arg Ser Asn Ser Arg Gly Arg Lys Asn Asn Asn Ile Pro	96
ctt tca ttc ttc aac ccc acc acc ctc gaa caa gga gct aaa ttt tgg Leu Ser Phe Phe Asn Pro Thr Thr Leu Glu Gin Gly Ala Lys Phe Trp	144
tat gta tgt ccg aga gac ttt gtt ccc aag gga ata ggt aat aag gat Tyr Val Cys Pro Arg Asp Phe Val Pro Lys Gly Ile Gly Asn Lys Asp	192
caa caa att ggt tat tgg aac aga cag gcg cgc ttt cgc att gtc aag Gin Gin Ile Gly Tyr Trp Asn Arg Gin Ala Arg Phe Arg Ile Val Lys	240
ggt cag cgt aag gaa ctc cct gag aga tgg ttt ttc tat ttc tta ggt Gly Gin Arg Lys Glu Leu Pro Glu Arg Trp Phe Phe Tyr Phe Leu Gly	288
aca gga cct cat gct gat gct aaa ttt aaa gat aag att gat gga gtc Thr Gly Pro His Ala Asp Ala Lys Phe Lys Asp Lys Ile Asp Gly Val	336
ttc tgg gtt gca aag gat ggt gcc atg aac aag cca aca tca ctt ggc Phe Trp Val Ala Lys Asp Gly Ala Met Asn Lys Pro Thr Ser Leu Gly	384
act cgt gga acc aac aat gaa tcc gaa cca ttg aga ttt gat ggt aag Thr Arg Gly Thr Asn Asn Glu Ser Glu Pro Leu Arg Phe Asp Gly Lys	432
ata cca cca caa ttc cag ctt gaa gta aac cgt tct agg aat aat tca Ile Pro Pro Gin Phe Gin Leu Glu Val Asn Arg Ser Arg Asn Asn Ser	480
agg tct ggt tct cag tct aga tct ggc tca aga aac agg tct caa tcc Arg Ser Gly Ser Gin Ser Arg Ser Gly Ser Arg Asn Arg Ser Gin Ser	528
agg gga aga caa caa tcc aat aac cag aat act aat gtt gag gat aca Arg Gly Arg Gin Gin Ser Asn Asn Gin Asn Thr Asn Val Glu Asp Thr	576
att gta gct gtg ctt cag aaa tta ggt gtt act gac aag caa agg tca Ile Val Ala Val Leu Glu Val Lys Leu Gly Val Thr Asp Lys Gin Arg Ser	624
cgt tct aaa tct aga gac cgt agt gac tct aaa tct aga gac aca aca Arg Ser Lys Ser Arg Asp Arg Ser Asp Ser Lys Ser Arg Asp Thr Thr	672
cct aaa aac gcc aac aaa cac acc tgg aag aaa act gca ggt aag ggt Pro Lys Asn Ala Asn His Thr Trp Lys Lys Thr Ala Gly Lys Gly	720
gat gtg aca aat ttc ttt ggt gct aga agt gct tcg gct aac ttt ggt Asp Val Thr Asn Phe Phe Gly Ala Arg Ser Ala Ser Ala Asn Phe Gly	768
gat agt gat ctc gtt gcc aat ggt aac gct gcc aaa tgc tac cct cag Asp Ser Asp Leu Val Ala Asn Gly Asn Ala Ala Lys Cys Tyr Pro Gin	816
ata gcc gaa tgc gtt cca tca gta tct agc gtg ctc ttc ggt agt caa Ile Ala Glu Cys Val Pro Ser Val Ser Val Leu Phe Gly Ser Gin	864
tgg tcc gct gaa gaa gct gga gat caa gtg aaa gtc aca ctt act cac Trp Ser Ala Glu Ala Gly Asp Gin Val Lys Val Thr Leu Thr His	912
acc tac tac ctg cca aaa ggt gat gcc aaa acc agt caa ttc cta gaa Thr Tyr Leu Pro Lys Gly Asp Ala Lys Thr Ser Gin Phe Leu Glu	960
cag att gac gct tac aag cgc cct tca caa gta gct aag gaa cag agg Gin Ile Asp Ala Tyr Lys Arg Pro Ser Gin Val Ala Lys Glu Gin Arg	1008
aaa cca aag cct cgc tct aag tct gct gat aag aag cct gag gaa ttg Lys Pro Lys Pro Arg Ser Lys Ser Ala Asp Lys Lys Pro Glu Glu Leu	1056
tct gta act ctt gta gag gca tac aca gat gtg ttt gat gac aca cag Ser Val Thr Leu Val Glu Ala Tyr Thr Asp Val Phe Asp Asp Thr Gin	1104
gtt gag atg att gat gag gtt acg aac taa (SEQ ID NO: 1) Val Glu Met Ile Asp Glu Val Thr Asn * (SEQ ID NO: 2)	1134

FIG. 1

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KU-2	MATGQRVNWGDEPSKRRDRSSNSRGRKNNNPLSFFENPTTLEQGAKFTWYVCPRDFPKIGNKDQQIGYMRQARFRIVGQRKELPERWIFFYFLGTGPH	100
Black	.....G.....Y.....I.....S.....S.....N.I.....V.Y.....R.....S.....	100
UCD1	.....G.....V.....D.....YY.....I.....Q.P.....S.....N.....Y.....	100
FIPV II	.....G.....D.....Y.....I.....S.....NL.....L.....I.Y.....A.....	100
FECV II	.....G.....D.....Y.....I.....D.S.....NL.....Y.....V.....	100
CCV	..S.....S.....ST.....G.....D.....I.....S.....DL.....T.Y.M.....R.....N.....K.....Y.....	100
TGEV	..N.....S.....ST.T.G.....I.....Q.....S.....NL.....R.....T.Y.M.....Y.....	100
KU-2	ADAKFKDIDGVFWKAGAMNKPTS LGCTGNNESEPLRFDGKIPPFQLEVNRSRNSRSGSRSRSGSRSRSGR -QOSNNQNTIVEDTIVLQK	199
Black	.....R.....T.....K.....K.....P.....V.....S.....	199
UCD1	.....R.....T.....K.....L.....V.....F.....	199
FIPV II	.....R.....T.....K.....V.....-HH.....N.....	199
FECV II	.....A.....R.....K.....V.....-	199
CCV	.....Q.L.....V.....RGDS.....T.....KA.....K.....V.V.S.E.H.....Q.L.D.....R.....Q.....QLSN.....KDD.....QAVL.....A.K.....	200
TGEV	.....L.....V.....T.....S.....A.....KA.....K.....V.GE.....Q.....D.....R.....Q.FN.....KDD.....QAVL.....A.K.....	200
KU-2	LGV-TDK -QRSSRSKSRDSDSKSRDTTPKANAKHTWKTAGKCDVTNFFGARSASANFGSDLVANGNAAKCYPQIAECVPSVSSVLFGSQWSAEEAGD	296
Black	.....".....GE.NQ.....P.....Y.....S.....A.....I.....	296
UCD1	.....".....S.....E.....QL.....R.....Y.....L.....	296
FIPV II	.....".....P.E.....P.....T.Y.....S.....II.....	296
FECV II	.....".....GE.....Q.....Y.....S.....I.....	296
CCV	...D.E.-Q.....KE..S.T.....E.....R.....K.Y.....S.....G.....H.....L.....I.....H.T.K.D.....	299
TGEV	...D.E.QQ.....KE.....N.T.....E.....S.R.....R.Y.....S.....T.....SS.....H.....L.....I.....Y.TSK.D.....	300
KU-2	QVKVLTHTYLPKGDAKTSQFLEQIDAYKRPSSQVAKERQPKPRSKSADKKPKEE -ISVTLVEATYDVTDTQVEMIDEVTN (SEQ ID NO: 2)	377
Black	.....D.....Q.....E.....D.....Q.R.S.....	377
UCD1	.....D.....E.....D.....SR.S.....	377
FIPV II	.....D.....E.....D.....QRRS.....	377
FECV II	.....N.....D.....E.....D.....Q.R.S.....	376
CCV	..IE.....F.....K.H.....D.P.....G.....Q.....N.....A.....E.....Q.R.A.....VEREQ.....VPDA.....T.N.....I.....	381
TGEV	..IE.....F.....K.H.....D.P.....G.....Q.....N.....A.....E.....R.S.....ERSEQDVTVPDA.....I.N.....I.....	382

FIG. 2

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N GENE

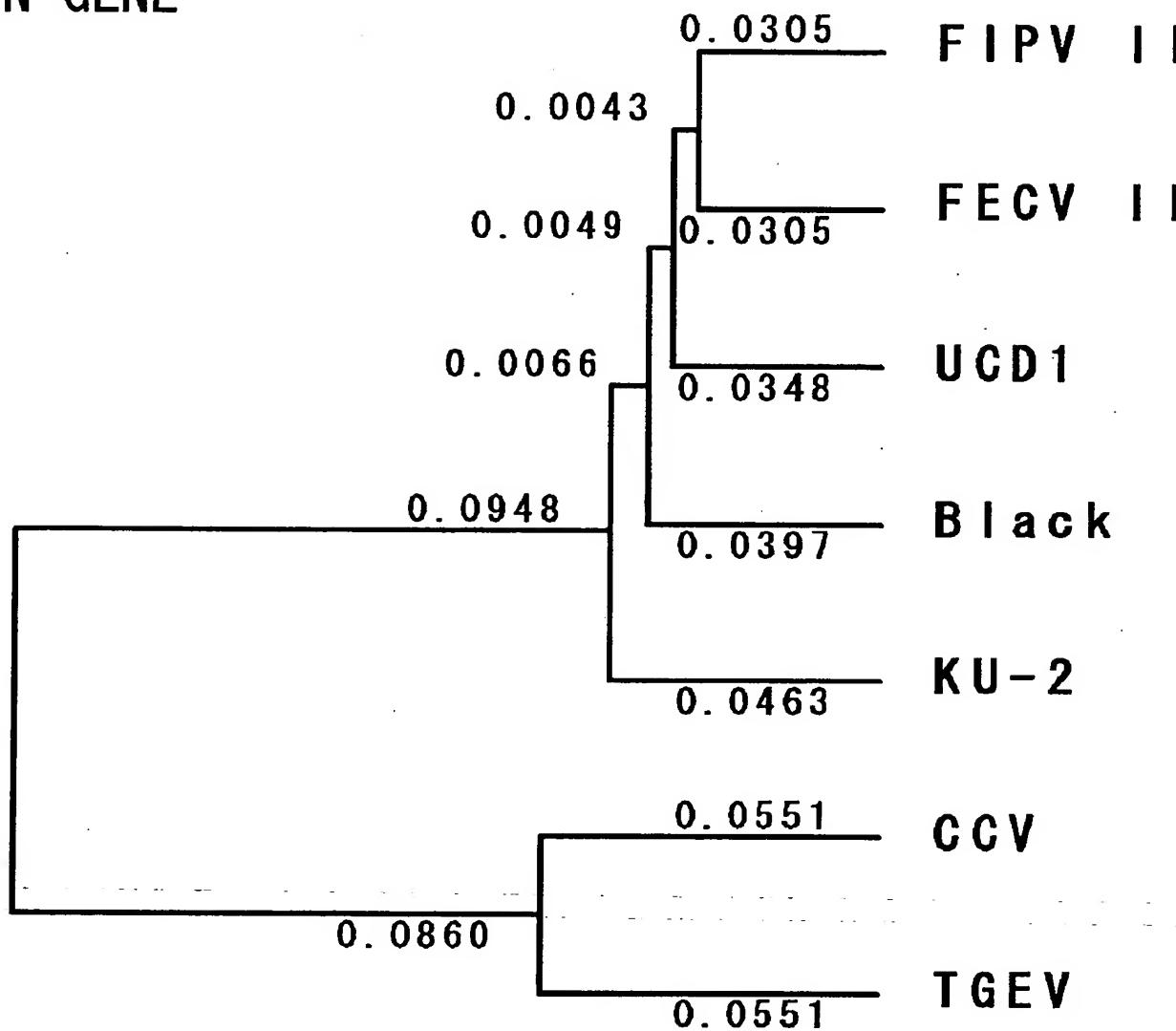


FIG. 3

10/520333

a b c d e f g h

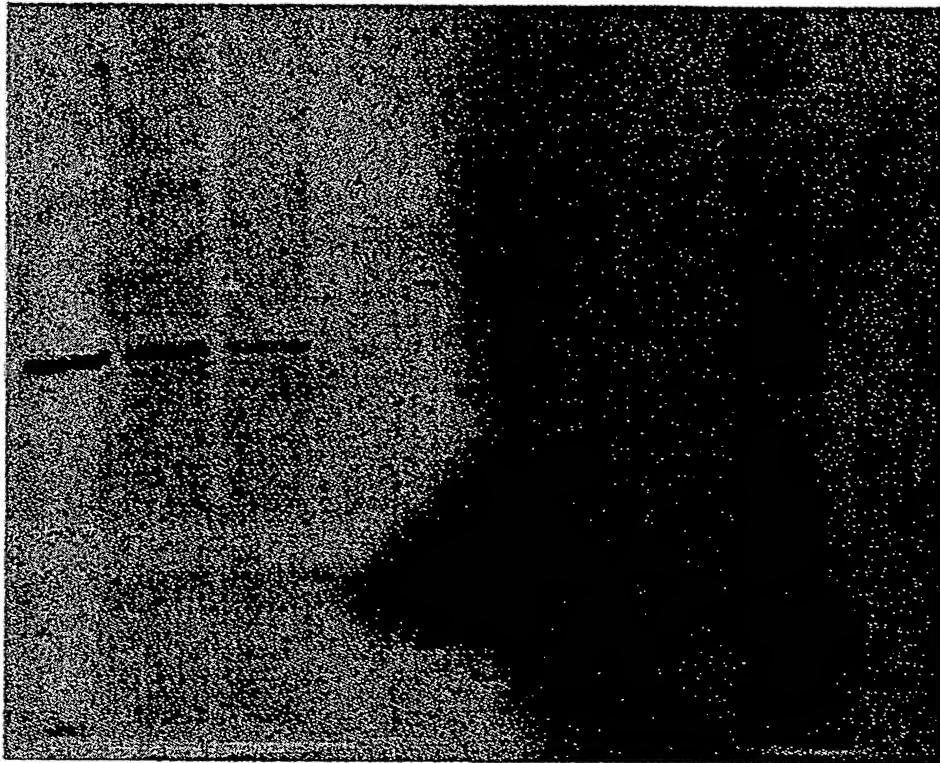


FIG. 4

10/520333

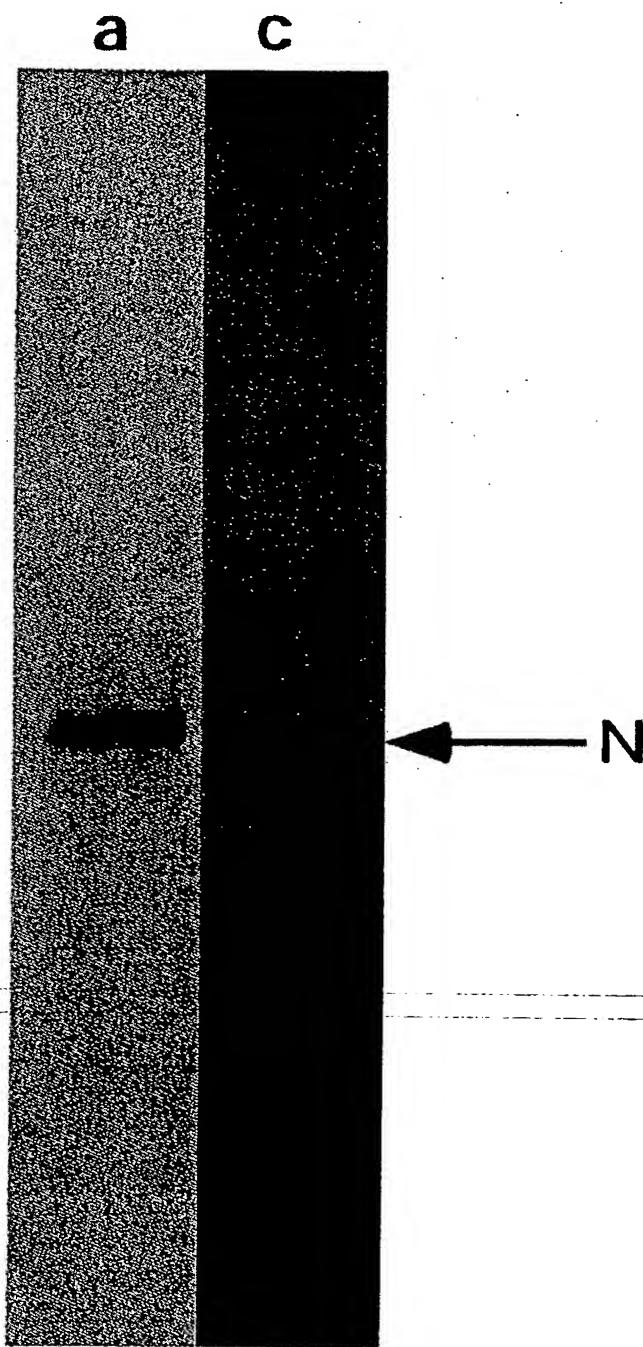


FIG. 5

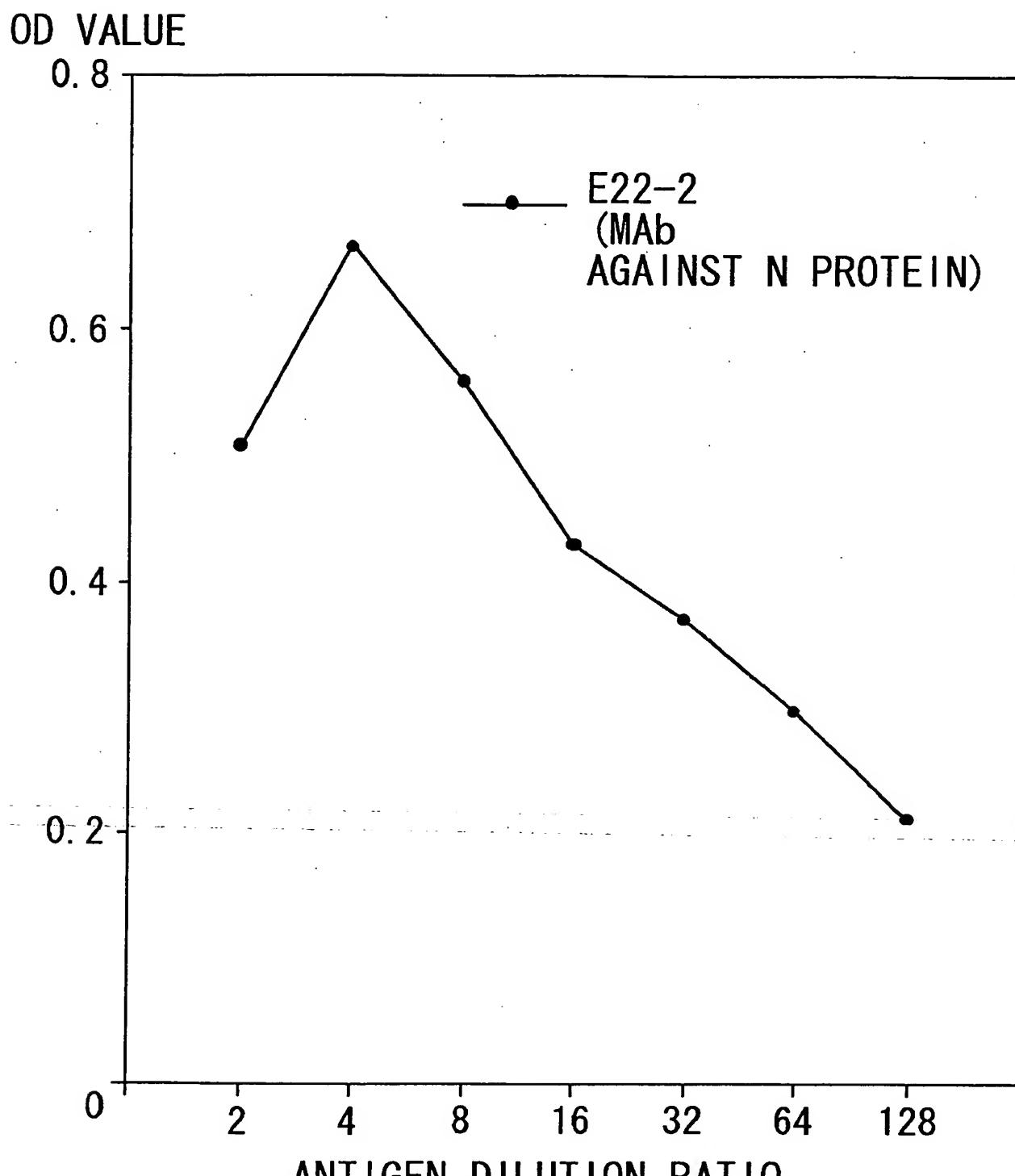


FIG. 6

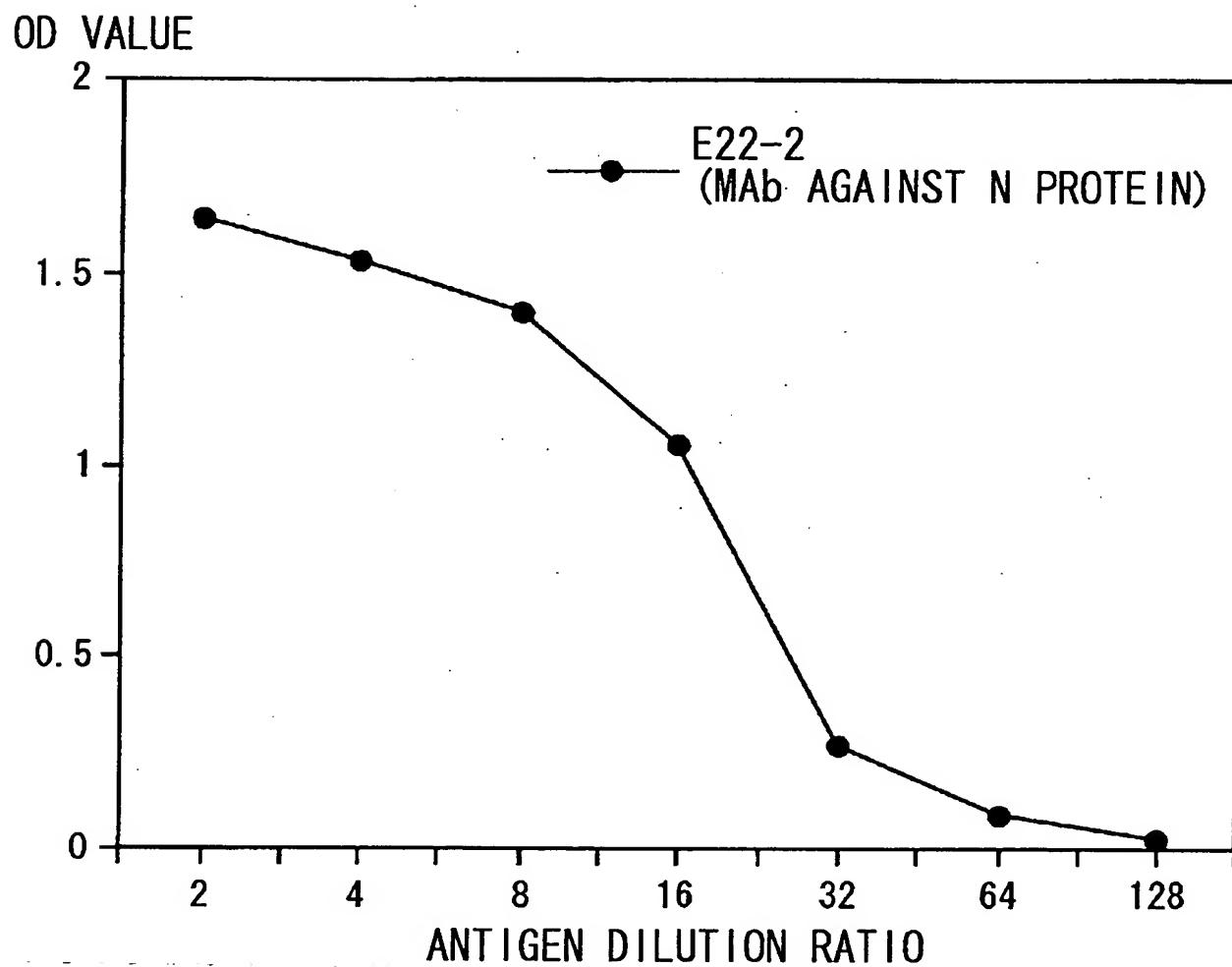


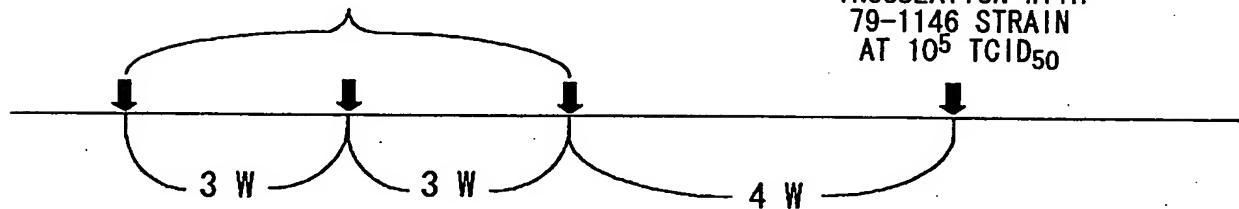
FIG. 7

10/520333

(a)

SUBCUTANEOUS  
IMMUNIZATION WITH  
N PROTEIN

INOCULATION WITH  
79-1146 STRAIN  
AT  $10^5$  TCID<sub>50</sub>



(b)

SUBCUTANEOUS  
IMMUNIZATION WITH  
SF-9 CELL-DERIVED ANTIGEN

INOCULATION WITH  
79-1146 STRAIN  
AT  $10^5$  TCID<sub>50</sub>

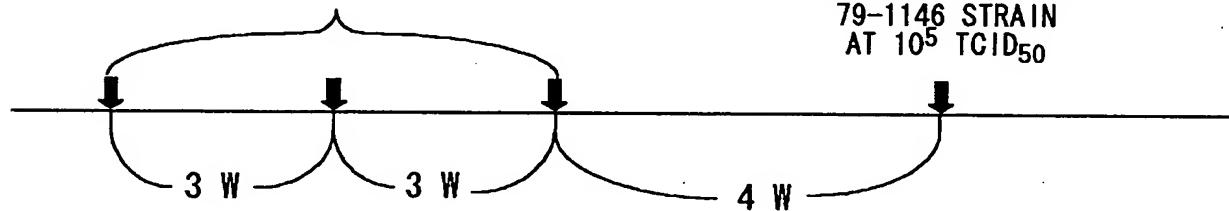


FIG. 8

10/520333

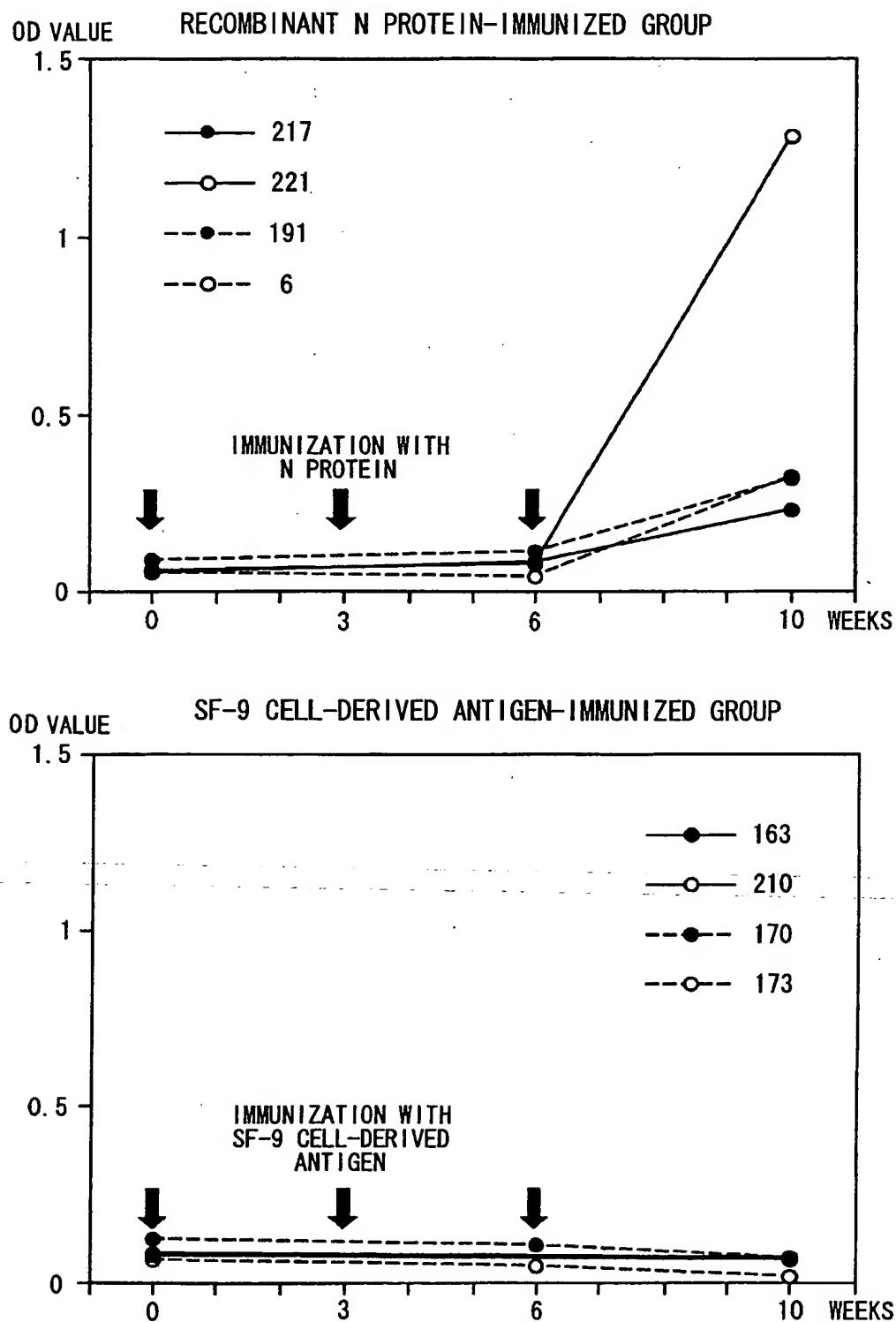


FIG. 9

10/520333

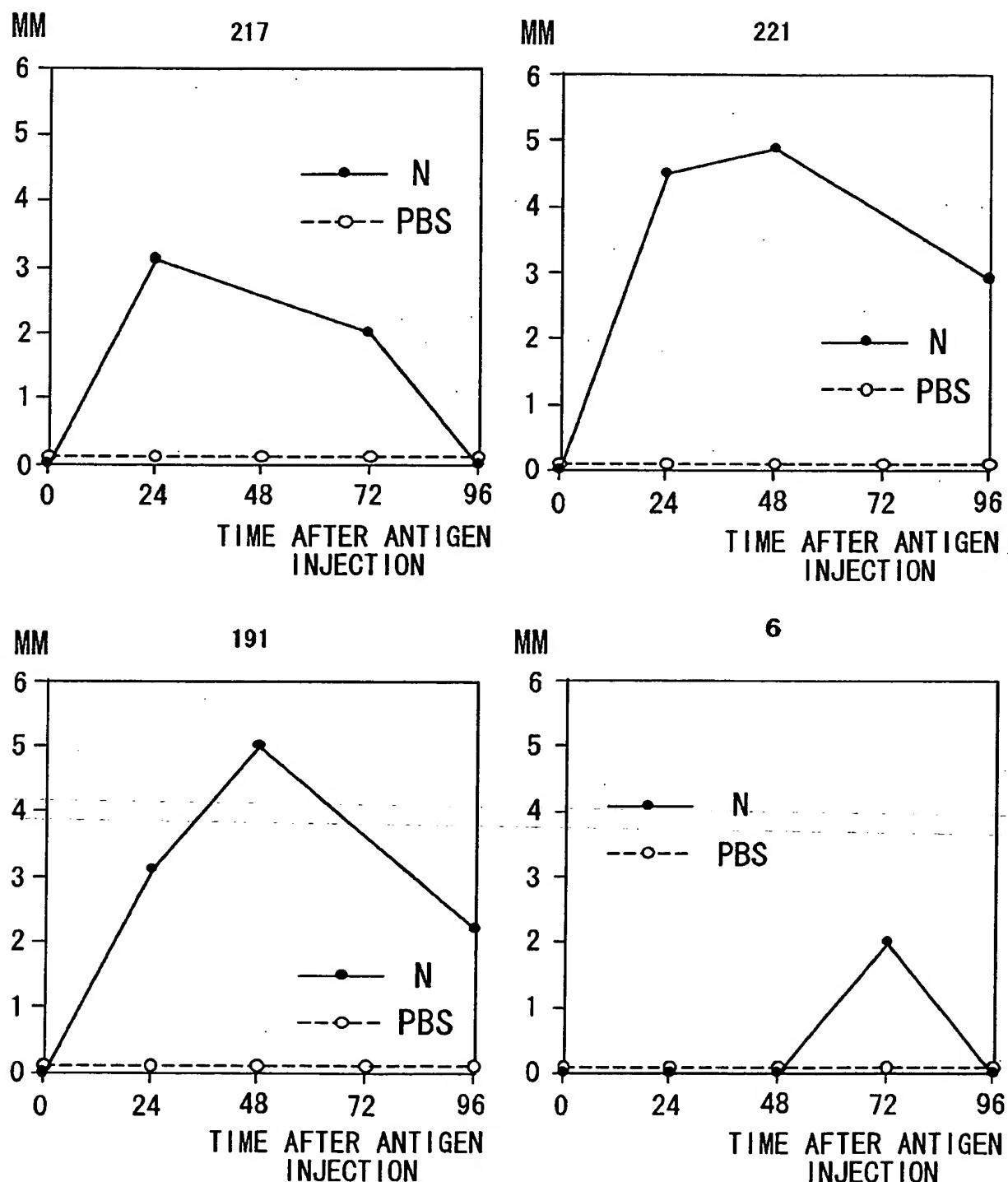


FIG. 10

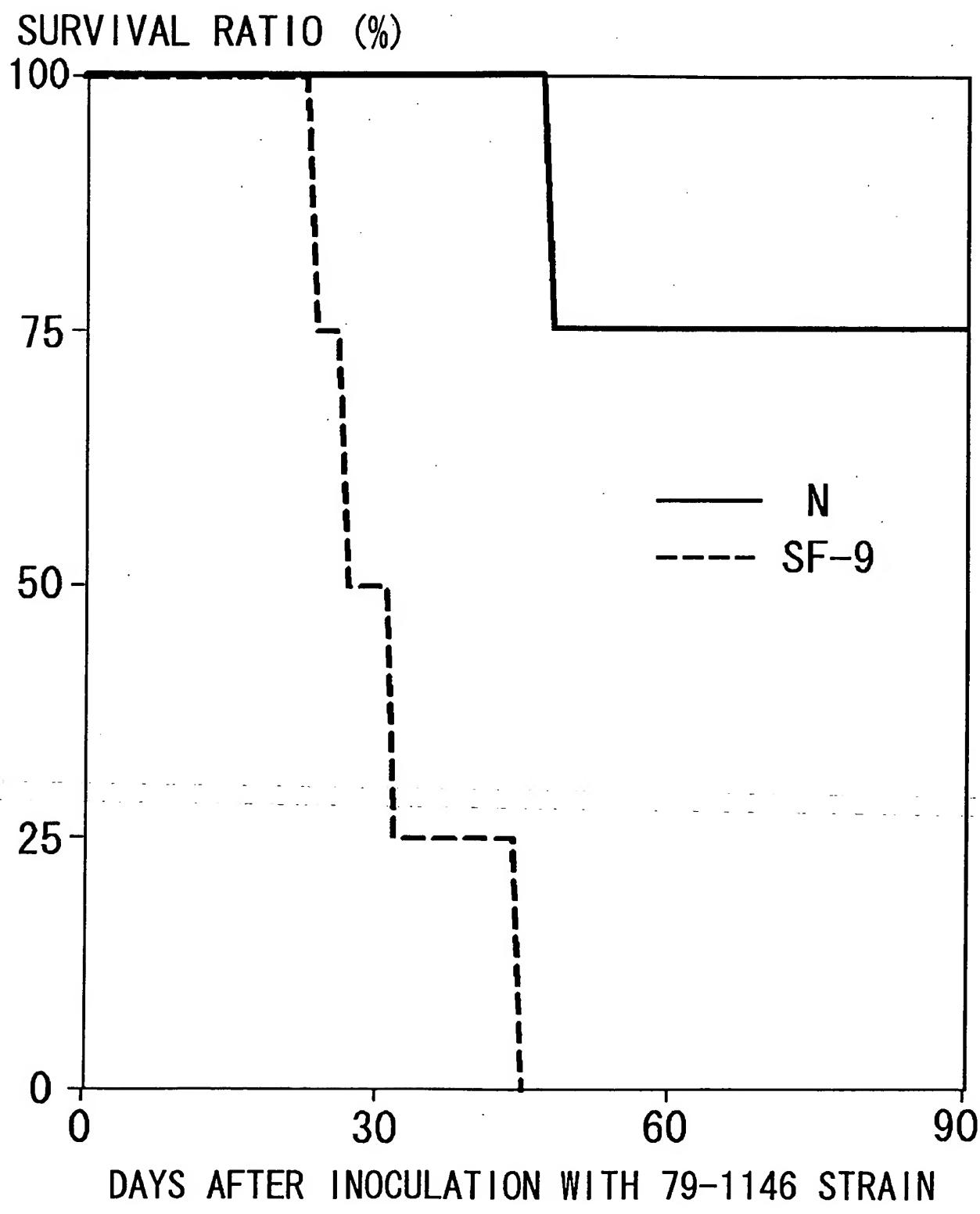


FIG. 11

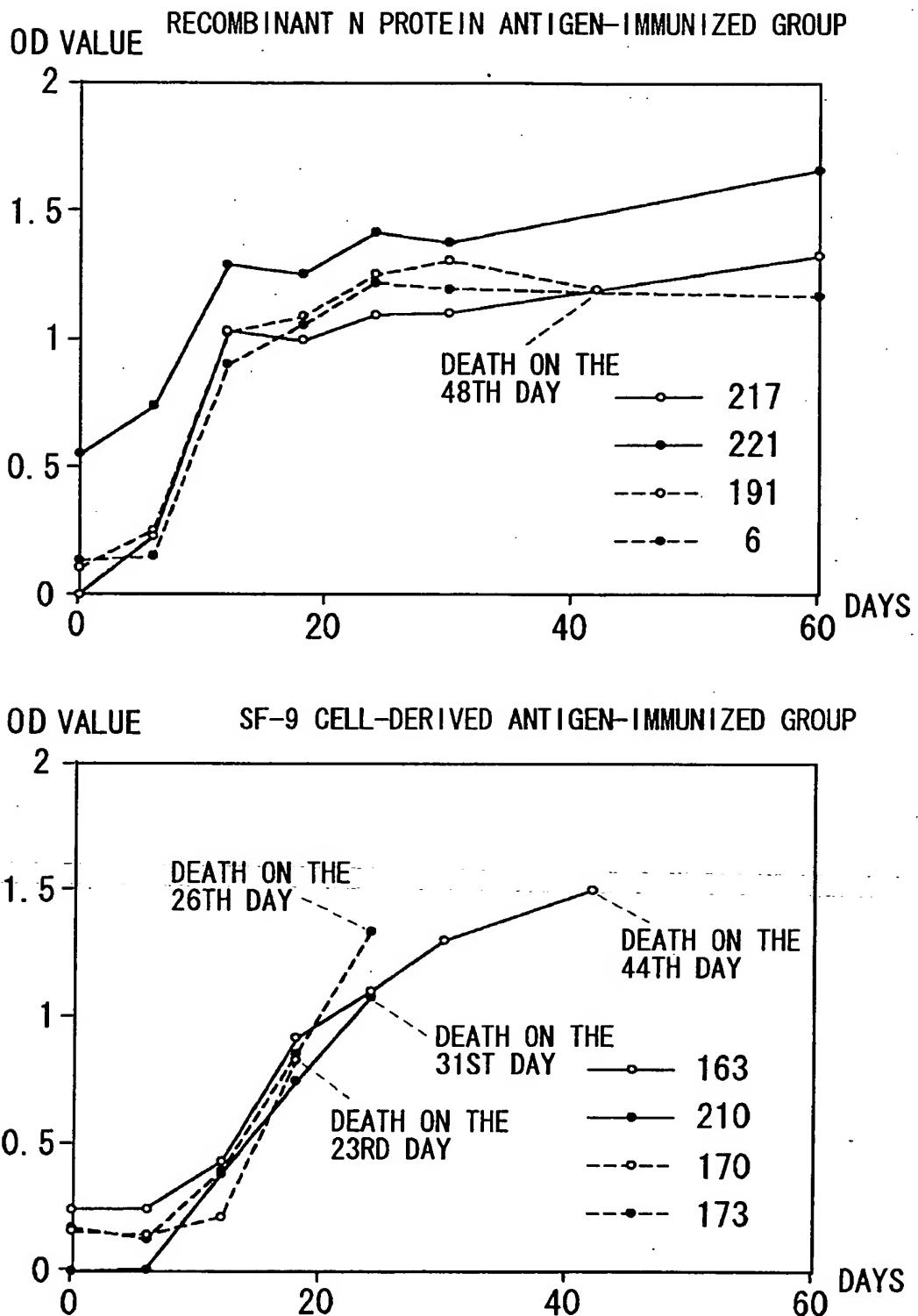


FIG. 12

10/52033

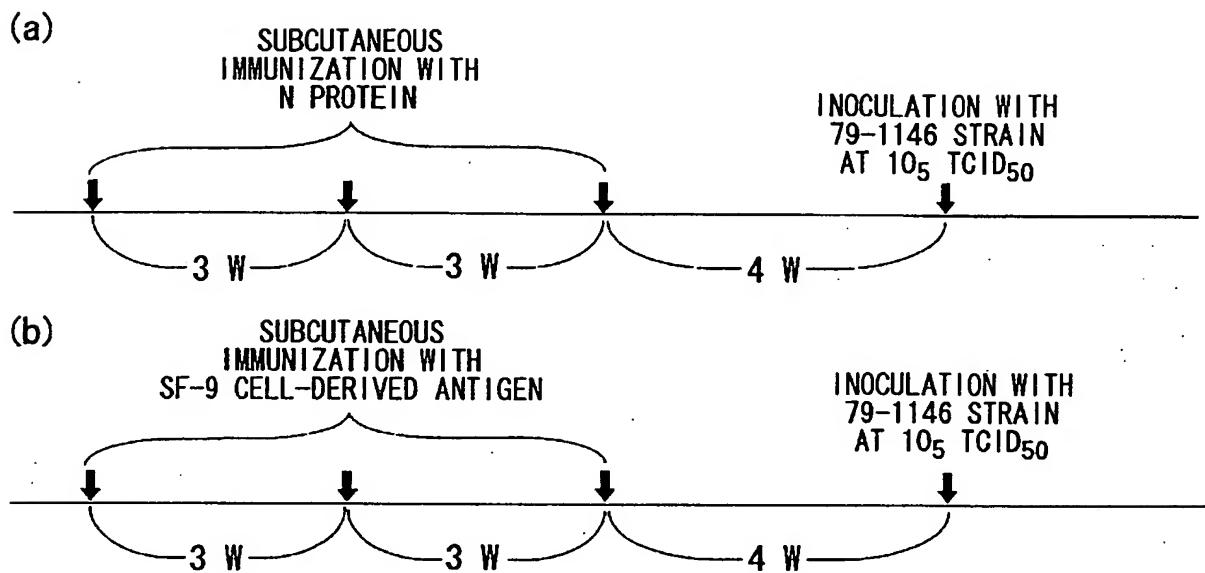
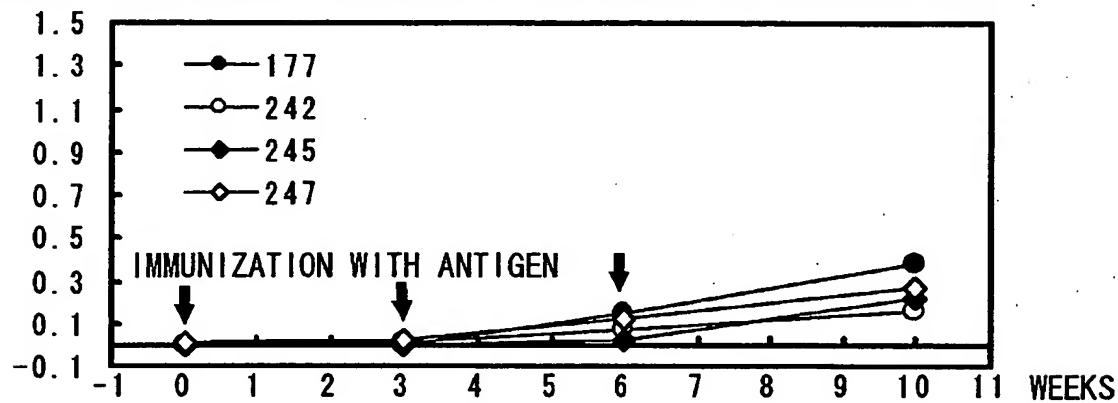
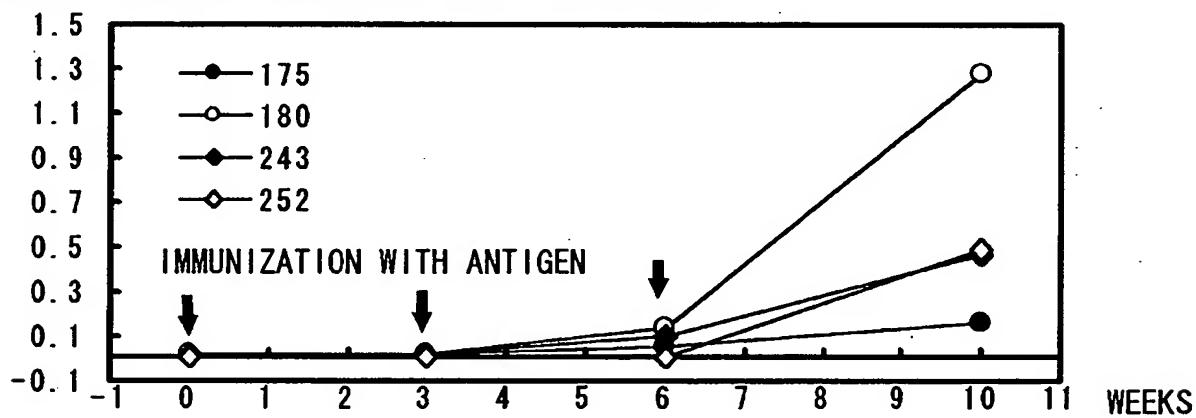


FIG. 13

OD VALUE BACULOVIRAL RECOMBINANT N PROTEIN ANTIGEN-IMMUNIZED GROUP



OD VALUE PURIFIED FIPV N PROTEIN-IMMUNIZED GROUP



OD VALUE SF-9 CELL-DERIVED ANTIGEN-IMMUNIZED GROUP

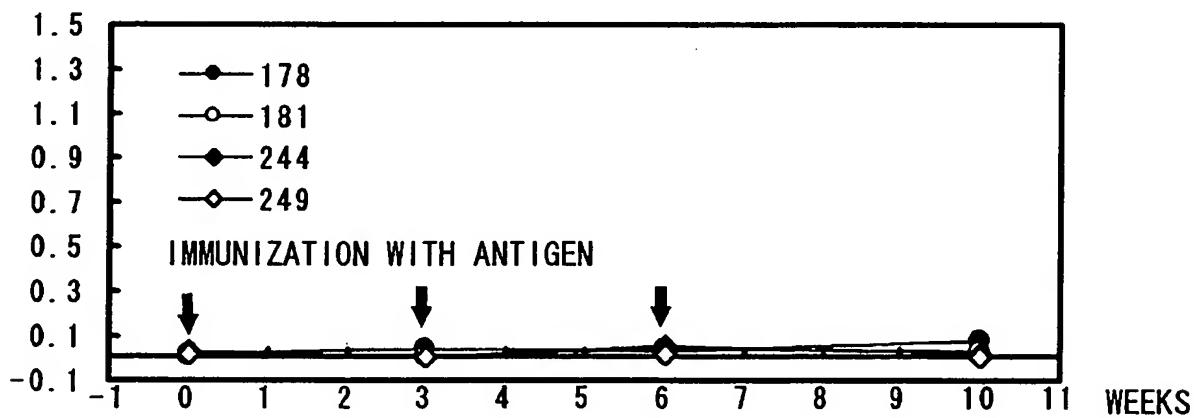
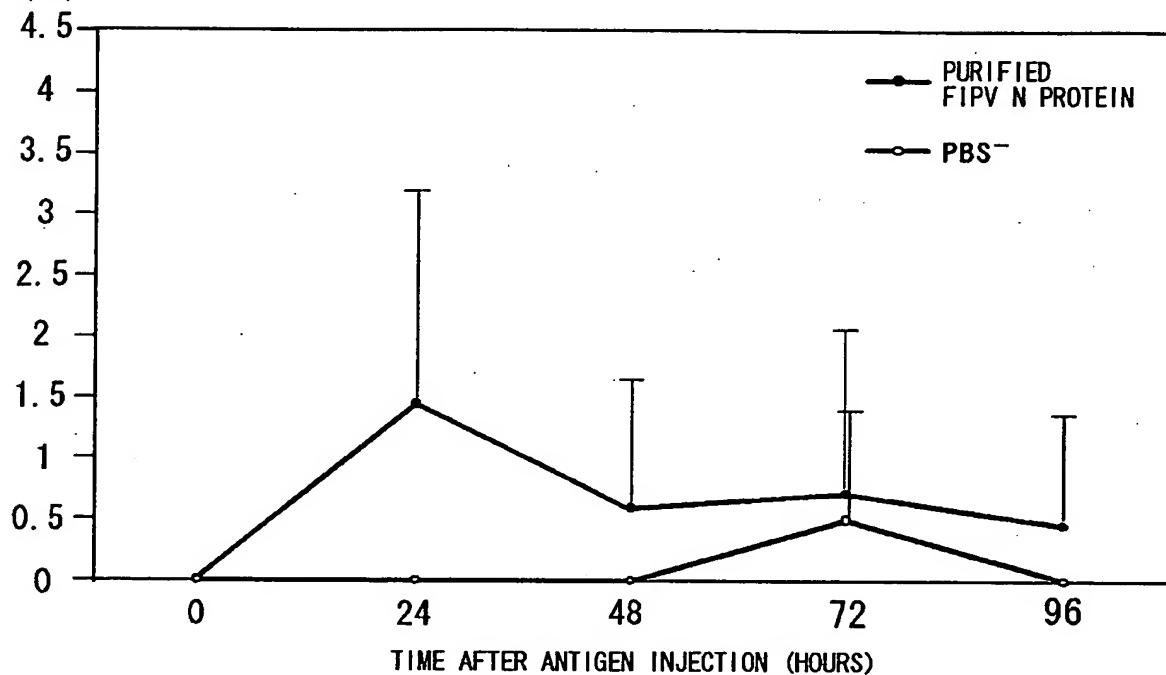


FIG. 14

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DIAMETER  
(MM)

BACULOVIRAL RECOMBINANT N PROTEIN-IMMUNIZED GROUP



DIAMETER  
(MM)

PURIFIED FIPV N PROTEIN-IMMUNIZED GROUP

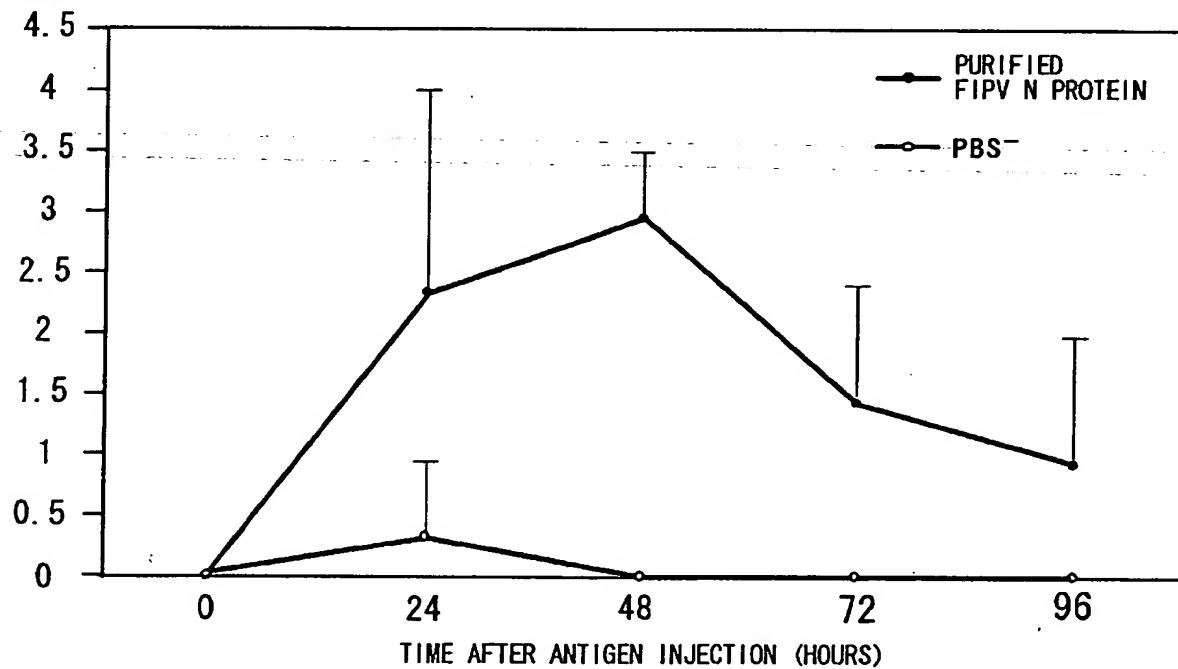


FIG. 15

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SURVIVAL RATIO (%)

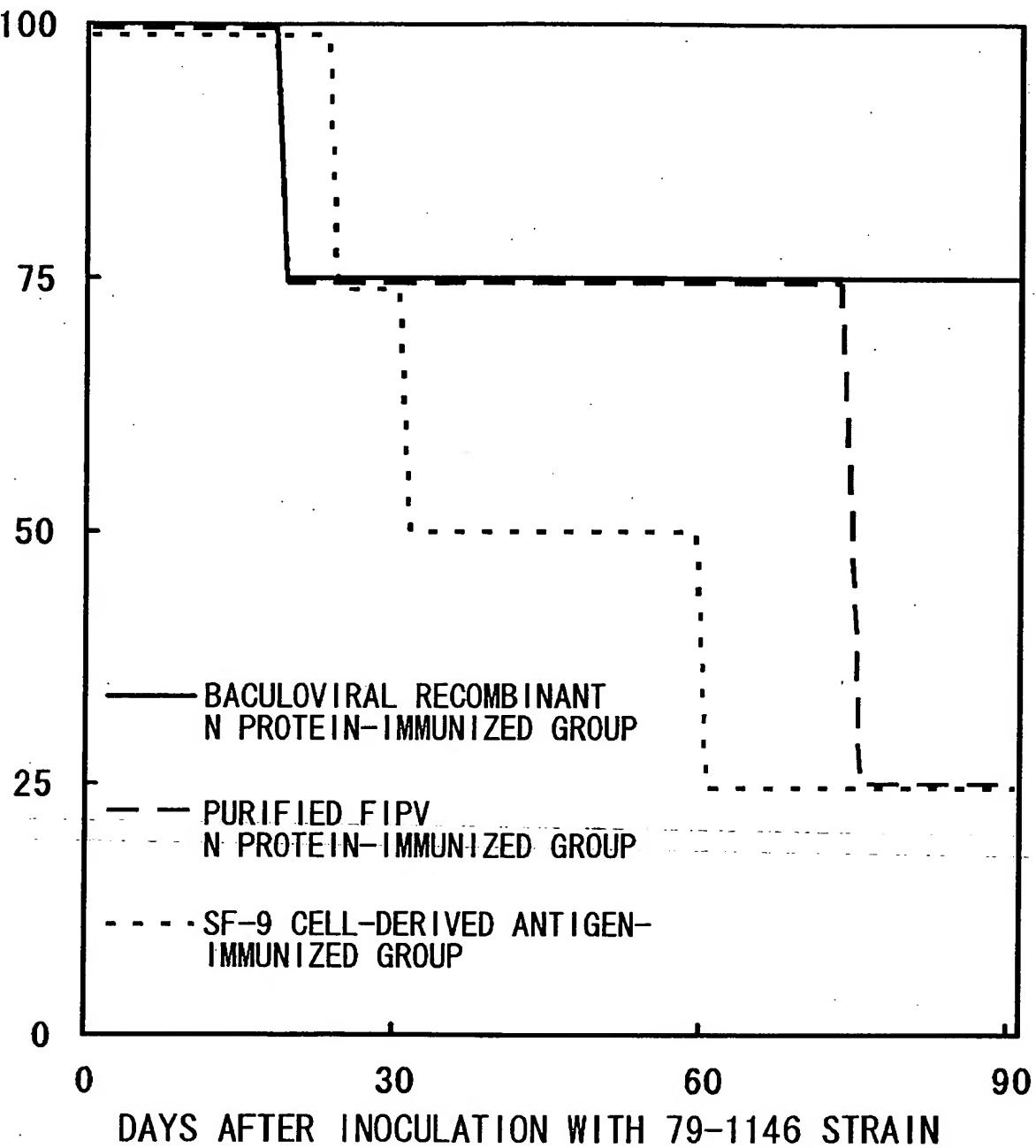


FIG. 16

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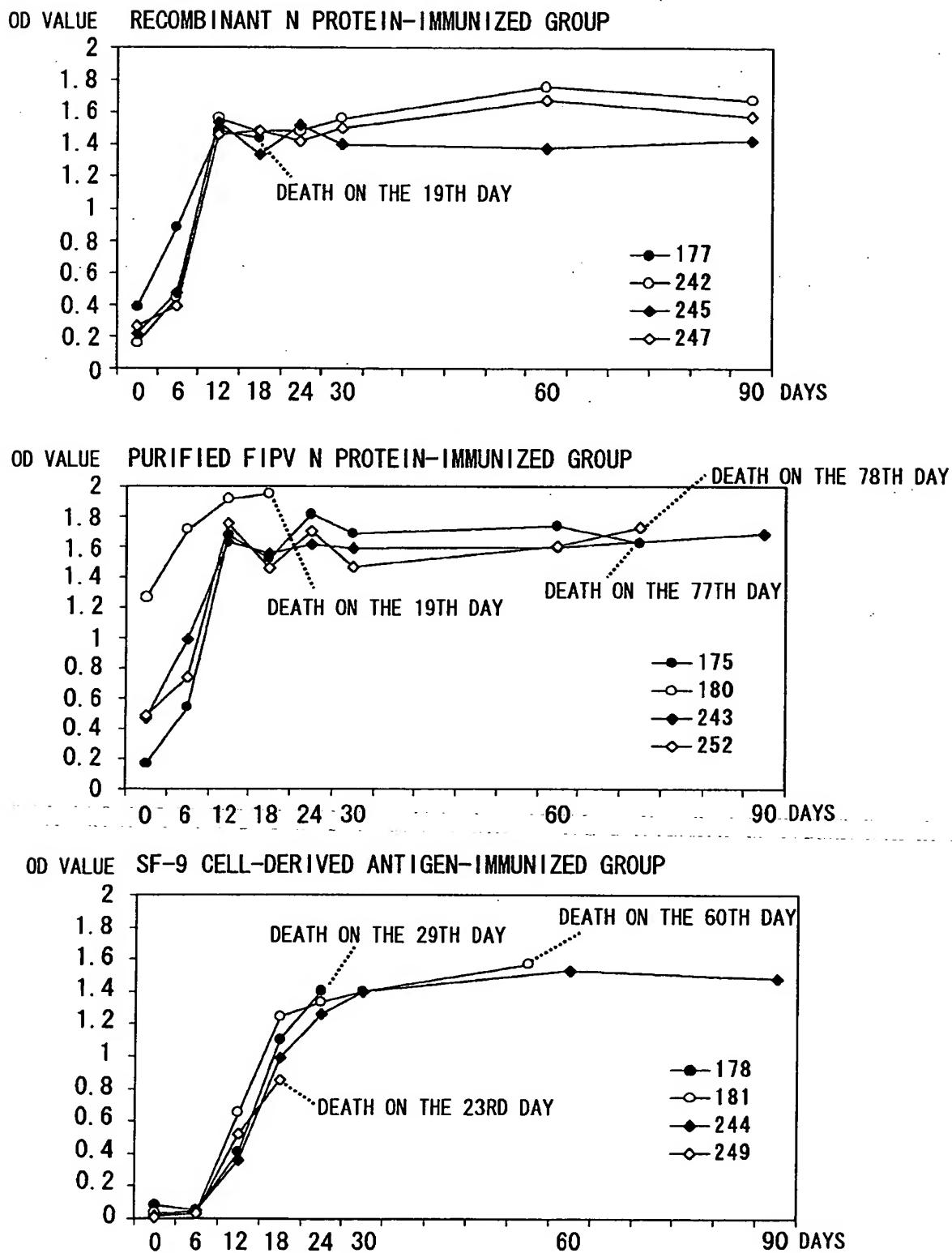


FIG. 17

10/520333

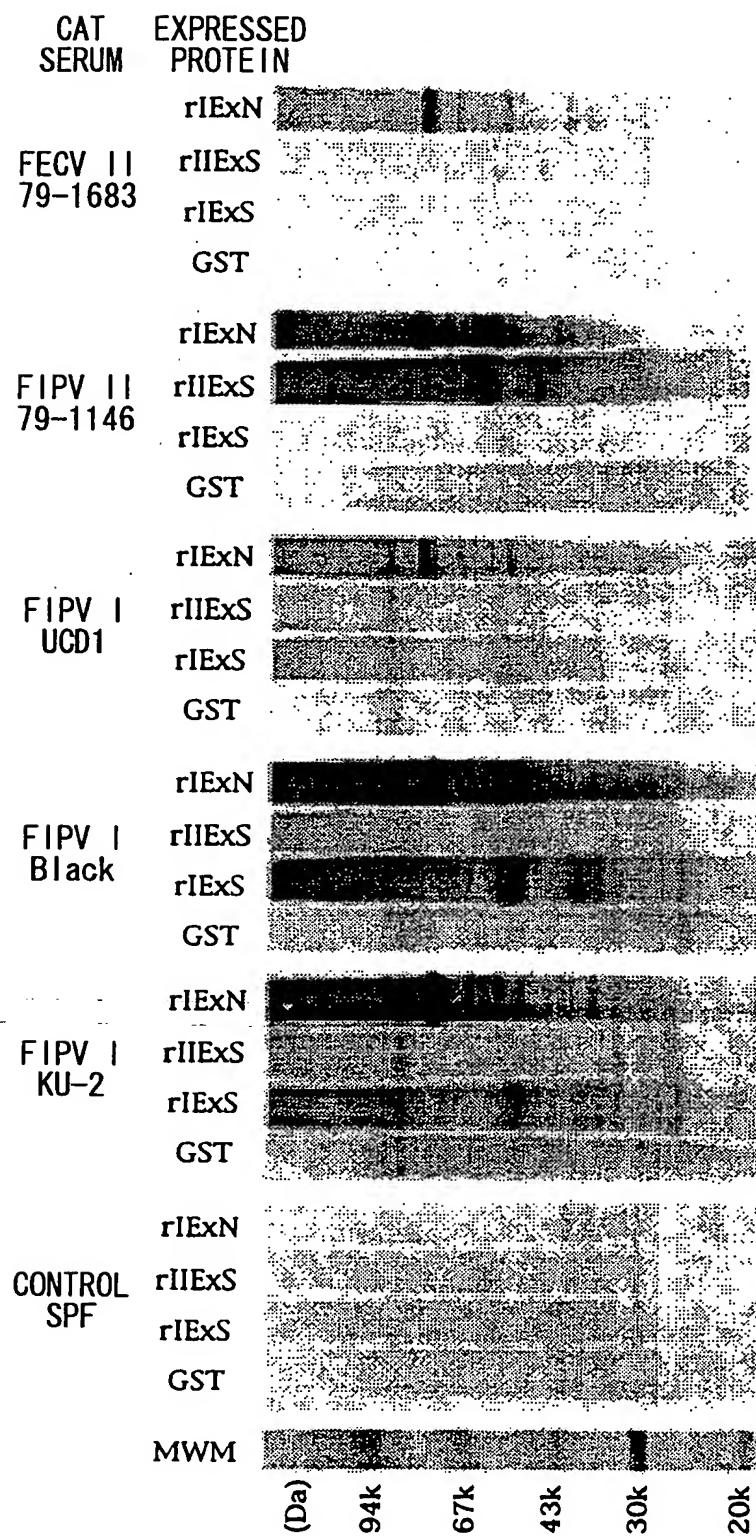


FIG. 18

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